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MONEY ROBOTS

ECONOFICTION ARBITRAGE, DERIVATIVES, FINANCE, HIGH FREQUENCY TRADING, ROBOTS

Money robots are actually nothing more than complex algorithms that analyze and process data and are also able to learn from feedback and results. Martin Ehrenhauser, a former member of the European Parliament, has published an informative book on this subject. The book “Die Geldroboter” (The Money Robots), published by ProMedia, deals with how money robots function and operate in the global financial markets.

Today, the high-frequency trader “Virtu Financial” trades on the basis of its complex algorithms in 235 different trading centers in 36 countries in 24/7 mode with about 12,000 different financial instruments, in the range of milliseconds and nanoseconds, in which the global computer exchanges are flooded with orders. Ehrenhauser writes: “But not only has the speed increased dramatically, the number of orders has also multiplied. Ten years ago, a trader would send seventy orders a day to a single stock exchange; today, there are a million orders at five different trading centers. The needs of the real economy play no role here. Buy quickly and sell again immediately is the motto. On the stock market, too. In 1980, for example, the average holding period for shares was still just under ten years; in 2000, it was six months, and in 2013, just 23 seconds.” (98) With the acceleration of financial transactions and the complete conversion of capitalization strategies to the future, the production of uncertainty is now systemic and systematic.

Money robots such as “Flow Financial” or “Virtu Financial” are referred to as “Liquidity Providers” that are designed to provide liquid (fluid) trading in financial markets through enormous volumes of buy and sell orders. This is the first of four strategies that the SEC (U.S. Securities and Exchange Commission) cites to explain the functions of money robots. This strategy is that of digital market makers, which permanently place buy and sell offers on both sides of the order book, with the profit coming from the price difference (spread) and commission payments from

the exchanges.

The second strategy is arbitrage, which intends to realize a risk-free profit by simultaneous execution of certain financial transactions on at least two (or more) markets. One buys a share on one stock exchange – if it has different prices on two or more stock exchanges – at a certain price, then sells it again on another stock exchange at a higher price, thus realizing a risk-free profit. Arbitrage is a means by which the volatile financial field in which assets are traded remains liquid, but as soon as the arbitrage opportunity appears, it is promptly closed again by the very players who profited from it.

A directional trading strategy, the third strategy, involves the rapid acquisition of relevant information that affects prices in financial markets, where money robots exploit speed advantages by being able to react to price movements precisely faster than their competitors.

Finally, latency arbitrage or frontrunning, in which special computer programs identify financially strong interested parties in the market and the high-frequency traders then buy the sought-after shares themselves in milliseconds on the various exchanges and resell them to the original interested parties at a higher price. Although the profit per share here is not high, it is replicated millions of times due to the high transaction sums and is also considered safe. Frontrunning is mostly financed by large institutional investors such as the investment and hedge funds or the pension funds, thus ultimately also by pensioners and small investors.

In addition to these four strategies, there are a whole range of other manipulation techniques, Ehrenhauser said. One can think, for example, of quote stuffing, in which an enormous number of orders are sent to the stock exchange and then deleted again the very next moment in order to delay trading for fractions of a second. In this way, market prices are driven in the intended direction in the short term, only to profit from the countermovement in the next moment. These strategies have been forcefully analyzed by Nanex, a company specializing in the study of trading anomalies and a provider of software for real-time analysis of stock odds.

And crises are almost welcome opportunities for money robots to increase their profits – exemplified here by the debt crisis in Greece, which led to high price fluctuations, especially of derivatives in the financial markets, and thus to increased buying and selling decisions, with the increased demand causing spreads (difference between the buying and selling price; the amount money robots collect for the liquidity offered) to rise. So the increased trading volume plus higher spreads led to higher profits, paid for by ordinary savers, pension investors, and insurance policyholders, among others .

The companies that use money robots usually work with a mixture of strategies; they create time advantages over other institutional investors due to their powerful technologies and infrastructures. In the process, speed excesses and the enormous number of transactions, which usually have only a small spread and thus lead to low profits as individuals, result in high profit sums for the money robots overall, especially when volatility (price movements on the stock exchanges) is high. However, the companies not only profit from strong price fluctuations, but they also trigger such fluctuations to spread and amplify them in seconds through the global

financial markets, which are to be understood as extremely interconnected systems, precisely by continuously increasing speeds and trading volumes. However, in 2016, profits of the U.S. company “Virtu Financial” and the Dutch company “Flow Traders” dropped significantly; they had a drop in profits of almost 50% to just under 40 million euros, and this despite the enormous technological arms race that the money robots organize to get the relevant information faster than the competition. There has long been an asymmetry in competition between the money robots and institutional investors (insurance companies and pension funds), which in the long term could also lead to a threat to retirement provision.

All it takes are small signals – triggered by tweets, certain messages or by manipulative strategies – that can lead to system disruptions via multiple chains of effects. In 2013, for example, the Twitter account of the U.S. news agency Associated Press was hacked, resulting in news of two explosions at the White House. The Twitter feed signaled an imminent price collapse for the algorithms of high-frequency traders and triggered an enormous number of automated sell orders within a very short time, resulting in an extreme price drop or flash crash.

The algotraders, however, have a completely different opinion regarding these extreme price fluctuations on the stock exchanges and claim that they would rather smooth the volatility on the markets with their money robots, especially in crisis situations when the prices crashed because the traders tried to sell all their products at the same time and would thus strengthen the price trend. Especially in such critical phases, one would set a price and thus signal to market participants that they could buy and sell at any time, which would just tend to calm the price movements. However, a 2016 Deutsche Bank study said that high-frequency traders would often pull back and reduce their liquidity supply during particularly volatile phases, creating an increased risk of extreme volatility, which in turn could encourage sharp fluctuations in prices, including flash events. Thus, Ehrenhäuser said, money robots would exacerbate excessive price movements during periods of high volatility in financial markets.

Moreover, behind the position of money robot companies lurks the ideological mantra of perpetual liquidity in the markets. The collective confidence of traders in the future liquidity of the market is essential here. Derivatives therefore inherit the performative power of a ritual to collectively enact the very thing that each individual agent in the markets presumes. But liquidity in the markets keeps evaporating because they do not remember their past mistakes. There is a spread between risk and uncertainty that is itself volatile. This is not a matter of merely reducing risks; rather, these are hedged in order to increase speculative capital, thus making risk (as opposed to uncertainty) count in purely quantitative terms, as a calculation of a price that is assigned a number. In this process, risks are separated from the conditions of their realization, and this has certain implications: Risk can now be defined in terms of volatility and measured, say, as the probability of the relative variance of the derivative price. Volatility is now itself measured into a logic of production. Derivatives thus capitalize on the volatility they actively create.

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